



Los Angeles Department of Water and Power Smart Grid Regional Demonstration Program

Project Description

Los Angeles Department of Water and Power (LADWP) is collaborating with a consortium of research institutions to develop new Smart Grid technologies, quantify costs and benefits, validate new models, and create prototypes to be adapted nationally. The project consists of four broad initiatives including:

- Demand Response (DR): perform an integrated demonstration of Smart Grid operations and technology as applied to DR. Test bed sites will investigate a full range of user environments: residential, commercial, light industrial, and institutional
- Electric Vehicle (EV) Integration into the LADWP Grid: demonstrate aspects such as smart charging and battery aggregation; renewables and EV battery integration; an operational microgrid; demonstration of a ride/car share program at LADWP; and EV test bed sites at USC and UCLA
- Customer Behavior: demonstrate a comprehensive portfolio of studies and focused surveys related to the impact of Smart Grid communications systems and processes on customer usage; energy savings from using Smart Grid enabled interfaces; pricing options and programs; and effective messaging and incentives regarding electric vehicles
- Next-Generation Cyber Security: demonstrate technologies to show grid resilience against physical and cyber-attack, an operational testing approach for components & installed systems, and redefine the security perimeter to address Smart Grid technologies to the meter in residential and commercial sites

Goals/Objectives

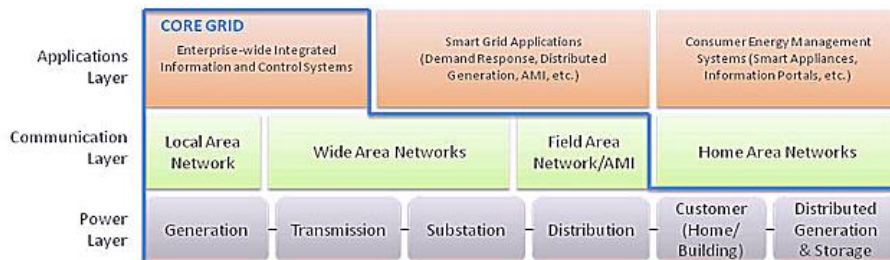
- Decrease in consumer electric costs
- Decrease in power interruption costs
- Reduction in peak power loads
- Improve grid resilience against cyber-attack and system integrity

Key Milestones

- Complete Smart Grid Final Design (March 2012)
- Complete Smart Grid Demo Installation/Construction (December 2013)
- Operations start (January 2014)
- Complete Demo Operations Phase (scheduled – September 2015)

Benefits

- Electricity costs reduced
- Lower peak demand
- Greenhouse gas emissions decreased
- Energy security strengthened



CONTACTS

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PARTNERS

Jet Propulsion Laboratory (operated as a unit of the California Institute of Technology for NASA)
University of Southern California
University of California, Los Angeles

PROJECT DURATION

01/01/10 – 09/30/2015

BUDGET

Total Project Value
\$120,560,000

DOE/Non-DOE Share

\$60,280,000/\$60,280,000

EQUIPMENT

Smart Meters
Electric Vehicle Charging Stations
Electric Vehicles
Smart Appliances

DEMONSTRATION STATES

California

AWARD NUMBER

DE-OE0000192

Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability